

**UNIVERSITI TEKNOLOGI MARA**

**COMMUNITY OF PRACTICE  
GROUP FORMATION MODEL  
BASED ONTOLOGY**

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Thesis submitted in fulfilment  
of the requirements for the degree of  
**Master of Science**

**Faculty of Computer and Mathematic Science**

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## **CONFIRMATION BY PANEL OF EXAMINERS**

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**AUTHOR’S DECLARATION**

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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## ABSTRACT

Establishment of a Community of Practice (CoP) has been proposed to be an effective approach to enable knowledge sharing among practitioners. Community of Practice (CoP) has been identified as approaches to share tacit knowledge among practitioner. Previous research has addressed CoP formation issues related to common ground such as finding the similarity of interest, experienced and practice among the members of the community. These issues have contributed to the failure of CoP itself. Therefore, for the CoP formation to be effective, the formation needs to take into account members identity and formation criteria that can influence the effectiveness of the community as a knowledge sharing group in practitioner environment. Hence, there are limited studies of group formation based on the practitioner criteria of CoP formation. Therefore, the main objective of this research is to identify the group formation criteria based knowledge sharing behaviour and to proposed a CoP group formation model based on the criteria of CoP group formation. Previous research has been using ontology in group formation to express semantic meaning of members' identification and group formation criteria. This approach has made a significant positive result to the group formation process using ontology. In this regard, the next objective of this research is to design and develop group formation domain ontology. In addition, other objective of this study is to evaluate the CoP group formation model to ensure the proposed model meets the requirement of practitioner environment. This study has been done based on a case study in large IT department. In order to identify group formation criteria, knowledge sharing behaviour among practitioner was examined using a mixed method. The first phase investigated knowledge sharing behaviour through observation study. Based on the first phase, the findings were generalized using Social Network Analysis (SNA). The findings are categorized into three criteria; ability, job context and relation. This research has proposed CoP group formation model and Group Formation Domain Ontology. The proposed models are capable to assist organization to formed CoP especially in practitioner setting.

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